Cogn Ther Res (2006) 30:571–584
DOI 10.1007/s10608-006-9027-8

ORIGINAL ARTICLE

Early Maladaptive Schemas and Social Phobia

José Pinto-Gouveia · Paula Castilho · Ana Galhardo · Marina Cunha

Published online: 17 June 2006

Abstract The present study compares core beliefs between a group of patients with social phobia (n = 62), other anxiety disorders (n = 41) and a group of non-psychiatric controls (n = 55). Participants completed measures to assess social anxiety and the Young's Schema Questionnaire (123-items version) that is designed to assess 15 early maladaptive schemas (EMSs). Results suggest that the schematic structure of patients with social phobia differs from the one of patients with other anxiety disorders and from normal controls'. Patients with social phobia show higher levels of EMSs particularly in the area of disconnection/rejection than patients with other anxiety disorders. Regression analysis identified the EMSs of mistrust/abuse, social undesirability/defectiveness, entitlement, emotional deprivation, unrelenting standards and shame, as the ones that explain most of the variance in our sample subject's anxiety that they felt in social situations and on fear of negative evaluation.

Keywords Social phobia · Social anxiety · Anxiety disorders · Schema questionnaire

Introduction

Social phobia is a common and often disabling disorder, with a serious negative impact in many areas of an individual's life. Yet, despite the incredible amount of research, the origins of social fears are still poorly understood. Clinical and epidemiological research suggests that there is interplay between biological and psychological processes in social

J. Pinto-Gouveia (✉) · P. Castilho
CINEICC – Faculdade de Psicologia e de Ciências da Educação da Universidade de Coimbra, Rua do Colégio Novo, 3001-802 Coimbra, Portugal
e-mail: jpgouveia@fpce.uc.pt

A. Galhardo · M. Cunha
Instituto Superior Miguel Torga, Coimbra, Portugal

phobia (Coupland, 2001). Temperamental variables, parenting styles, peer relationships and negative life events have been implicated in the development of social phobia (for a review see Neal & Edelmann, 2003; Rapee & Spence, 2004).

Several parenting styles, factors such as high levels of parental criticism, parental shaming, overprotection and social isolation have been indicated as possible pathways for the development of social fears (Hudson & Rapee, 2000; Neal & Edelmann, 2003). However, it is not completely understood how those negative parenting styles interact with the child's temperament and what may possibly mediate between parenting styles and social anxiety.

Core beliefs (unconditional schema-level representations), as one possibility that has not received much attention in empirical research, can act as mediators between parenting styles and the social phobics' tendency to interpret social situations as threatening. One can argue that it is not too speculative to think that parental style characterized by criticism and shaming or overprotection, can convey to the child the message of his/her inefficacy and incompetence or inability to cope and a perception of others as being critical and causers of humiliation to oneself. Thus, these are central themes in social phobics' fears.

Furthermore, research shows that patients with social phobia are a heterogeneous group with frequent comorbidity with Axes II disorders, especially with avoidant personality disorder and that patients with social phobia with comorbid Axes II disorders show more severe symptomatology (Herbert, Hope, & Bellack, 1992; Marteinsdottir, Furmark, Tillfors, Fredrikson, & Ekselius, 2001).

The existence of self-schemas of inefficacy and incompetence to deal with social situations in social phobics has been inferred from patient's frequent use of self-descriptives, such as: ''I am not an attractive person'', ''I am not an interesting person'', ''Others think I am boring'', ''I don't have anything to talk about'', ''I'm weird''. However, few studies have investigated systematically, the schema structure of patients suffering from social phobia, comparing it with the schema structure of patients with other anxiety disorders. Clinical experience suggests that the dysfunctional thinking style of more severe cases of social phobia, includes other core beliefs about the self and others, similar to the ones described by Young (1990, 1999), rather than just maladaptive beliefs about inefficacy and social incompetence. Relevant patterns of those core beliefs include emotional deprivation, mistrust/abuse, shame and guilt, among others. In his schema-focused therapy, Young (1990, 1999) used the concept of Early Maladaptive Schemas (EMSs), as self-perpetuating dysfunctional cognitive structures that developed during childhood, resulting from dysfunctional relationships with significant others and these are related to psychopathology. EMSs represent core beliefs (unconditional assumptions) about the self and the others that guide environmental information processing in a dysfunctional way, thus affecting self-perception and influencing interpersonal relationships (Young, 1999). The unconditional nature of core beliefs makes them resistant to change, which gives origin to selective information processing that is congruent with its content and minimizes information, which is not consistent with the schema (Williams, Watts, Macleod, & Mathews, 1997).

Young has identified 15 EMSs that are grouped in five (5) main domains: Disconnection, Impaired Autonomy, Impaired Limits, Other-Directness, Overvigilance and Inhibition, (Young, 1990, 1999; Young, Klosko, & Weishaar, 2003). The *Disconnection* domain comprises schemas related to the expectation that one's need for security, safety, empathy, sharing of feelings, acceptance and respect, will not be met in a

predictable manner. Patients with schemas in this domain are unable to form secure and satisfying attachments to others. The typical family of origin is characterised as unstable (*abandonment*), abusive (*mistrust/abuse*), cold (*emotional deprivation*), and rejecting (*defectiveness/shame*) or isolated from the outside world (*social isolation/alienation*). The *Impaired Autonomy and Performance* domain comprises schemas related to expectations about oneself and the environment that interfere with one's perceived ability to separate, survive, function independently or perform successfully. The typical family of origin is enmeshed, undermining of the child's confidence, overprotective or failing to reinforce the child for performing competently outside the family. Therefore, the theoretical schemas in this domain are *dependence*, *vulnerability to harm or illness*, *enmeshment* and *failure*. The *Impaired Limits* domain comprises schemas related to deficiency in internal limits, responsibility to others, or long-term goal orientation. The typical family of origin is characterized by permissiveness, overindulgence, lack of direction, or a sense of superiority rather than appropriate confrontation, discipline and limits in comparison to taking responsibility, cooperating in a reciprocal manner, and setting goals. The theoretical schemas in this domain are *entitlement/grandiosity*, *insufficient self-control/self-discipline*. The *Other-Directedness* domain comprises schemas related to an excessive focus on the desires, feelings, and responses from others at the expense of one's own needs in order to gain love and approval and to maintain one's sense of connection, or to avoid retaliation. The typical family of origin is based on conditional acceptance. The theoretical schemas in this domain are *subjugation*, *self-sacrifice*, *approval-seeking/recognition-seeking*. The *Over-vigilance and Inhibition* domain comprises schemas related to an excessive emphasis on suppressing one's spontaneous feelings, impulses, and choices or on meeting up to rigid, internalized rules and expectations about performance and ethical behaviours, often at the expenses of happiness, self-expression, relaxation, close relationships or health. The typical family of origin is grim, demanding, and sometimes punitive. This being the case, the theoretical schemas in this domain are negativity/pessimism, emotional inhibition, unrelenting standards/hypercriticalness and punitiveness (Young, 1990, 1999; Young et al., 2003).

Young's model (1990) postulated the Schema Questionnaire (SQ), as a self-report instrument for the assessment of the EMSs (see Table 1 and the section of the Instruments, for a brief description of the theme of each empirical subscale that was found in the factorial study of the Portuguese version of SQ).

Research on the association between EMSs and psychopathology found an association between certain EMSs and symptoms of depression and anxiety (Schmidt, Joiner, Young, & Telch, 1995; Welburn, Coristine, Dagg, Pontefract, & Jordan, 2002). Using the Schema Questionnaire, Shah and Waller (2000) demonstrated that a set of core beliefs in a group of depressed patients appeared to mediate the relationship between maternal bonding and paternal overprotection with the presence of depressive symptoms (Shah & Waller, 2000). However, there are no studies that address the schematic structure of social phobic patients, comparing it with the schematic structure of patients with different anxiety disorders.

In terms of hypotheses for this study, both theoretically and according to the cognitive model for social phobia (Beck, Emery, & Greenberg, 1985; Clark & Wells, 1995; Rapee & Heimberg, 1997), we expected that patients with social phobia would score higher than patients with other anxiety disorders in schemas whose theme is related with a sense of inefficacy and incompetence to deal with social situations (*guilt/failure*). In addition, we also expected that social phobic patients would score higher than other

Table 1 Schema questionnaire subscales

Subscales	Examples of items
F 1: Emotional Deprivation – The belief that one's emotional needs will never be met and that one's needs for nurturance and affection will never be adequately met.	47. I don't feel as if I am a special person to anyone. 43. I don't have anyone to nurture me, share themselves with me, or care deeply about everything that happens to me. 44. I don't have anyone who wants to get close to me and spend a lot of time with me.
F 2: Guilt/Failure – The belief that one is incapable of performing well, that is to say that one is fundamentally inadequate relative to others and therefore destined to fail in areas of achievement (e.g. school, career, sports).	93. I deserve to be punished. 87. I'm inept. 74. I'm unworthy of the love, attention, and respect of others.
F 3: Social Undesirability/Defectiveness – The belief that one is isolated from others due to some outwardly undesirable feature or internal defect.	77. I'm ugly. 78. I can't carry on a decent conversation. 79. I'm dull and boring in social situations.
F 4: Mistrust/Abuse – The belief that one will be taken advantage by others and the expectation that others are abusive, humiliating and manipulative.	64. I am quite suspicious of other people's motives. 63. I have a great deal of difficulty trusting people. 60. If someone acts nicely toward me, I assume that they must be after something.
F 5: Unrelenting Standards – The belief that one should strive for unrealistic standards.	108. I try to do my best; I can't settle for ''good enough''. 109. I have so much to accomplish that there is almost no time to really relax. 114. My health is suffering because I put myself under so much pressure to do well.
F 6: Fear of Loosing Self-control – The belief that one cannot control one's impulses or feelings.	34. I often feel that I am going to have an anxiety attack. 33. I often feel that I might go crazy. 22. I feel that a disaster (natural, criminal, financial, or medical) could strike at any moment.
F 7: Dependence – The belief that one is unable to competently manage everyday responsibilities and cannot be independent.	3. I do not feel I can cope well by myself. 1. I do not feel capable of getting by on my own. 2. I need other people to help me get by.
F 8: Social Isolation/Alienation – The belief that one is different and isolated from the world.	67. I don't belong; I'm a loner. 68. I feel alienated from other people. 69. I feel isolated and alone.
F 9: Entitlement/Insufficient Limits – The belief that one can act without consideration for others.	117. I often get angry or irritable if I can't get what I want. 122. I can't seem to discipline myself to complete routine or boring tasks. 119. I hate to be constrained or kept from doing what I want.
F 10: Abandonment – The belief that significant others will be unable to provide emotional support or protection because they are believed to be emotionally unstable, unreliable or because they may die or end relationships imminently.	51. I find myself clinging to people I'm close to. 17. I give more to other people than I get back in return. 52. I worry that people I feel close to will leave me or abandon me.
F 11: Vulnerability to Harm and Illness – the fear and the belief that one has no control over the threat of disasters (e.g. natural, medical, financial) and that these disasters will strike at any time	25. I am very careful about money or else I might end up with nothing. 26. I take great precautions to avoid getting sick or hurt. 27. I worry that I'll lose all my money and become destitute.

Table 1 continued

Subscales	Examples of items
F 12: Subjugation/Lack of Individuation – The belief that one must sacrifice one's own needs to help to satisfy others' needs; the belief that one must submit to the control of others to avoid negative consequences and the lack of individual identity, due to emotional over involvement with others.	11. In relationships, I let the other person have the upper hand. 14. I can't express my anger because others will disapprove or leave me. 37. I worry that I might not be able to resist my sexual urges.
F 13: Shame – The belief that one is internally flawed, inferior to others and ashamed of one's defects.	100. I am humiliated by my failures and inadequacies. 99. I often feel guilty without knowing why. 98. I can't seem to live up to my religious or moral principles in certain ways, no matter how hard I try it.

anxiety disorders' patients on schemas of disconnection (except for the abandonment schema, given that abandonment is not a relevant theme in social phobia) and other-directedness' domain. Since the individuals that develop a schema in the *disconnection* domain are most likely to come from a cold, rejecting, explosive or abusive family, this can lead to expectations that one's needs for understanding, listening or mutual sharing of feelings from others will not be met (*emotional deprivation*), that others will hurt, abuse and humiliate (*mistrust/abuse*) and to feelings that one is defective, bad, unwanted, invalid or would be unlovable to significant others if exposed to them (*social undesirability/defectiveness, shame, and social isolation/alienation)*. These expectations about others could contribute to the persistent avoidance of social situations and the development of social anxiety. In a similar way, individuals that develop a schema in the *other-directedness* domain are most likely to come from families with a parenting style based on conditional acceptance, which leads to expectations that one must suppress important aspects of themselves in order to gain love, attention and approval (*subjugation/lack of individuation*). In contrast to this, we expected that social phobics would score lower or not differ from other anxiety disorders in the schemas of impaired autonomy and performance (*vulnerability to harm and illness, dependence, fear of loosing control*), impaired limits (*entitlement/insufficient limits*) and overvigilance and inhibition's domains (*unrelenting standards*), as these schemas reflect themes and expectations more related to panic and obsessive–compulsive disorders than to social phobia. The assessment of EMS is clinically relevant because social phobic patients who show these schemas may exhibit more severe social avoidance and poor treatment outcome to therapeutic approaches that only focus on social phobia's maintenance factors. Those patients might benefit from a specific therapeutic approach for the maladaptive schemas (e.g. shame, mistrust/abuse, social undesirability/defectiveness and emotional deprivation), this being the schema-focused therapy, which suggests specific therapeutic strategies to deal with those core beliefs that developed through negative parenting styles (Young, 1999; Young et al., 2003).

Therefore, the aim of this study was to investigate the presence of EMSs in patients with social phobia and compare their schematic structure with a group of normal controls and a group of patients with other anxiety disorders.

Method

Participants

The data for the present study were obtained from three groups of subjects: a group of individuals from the general population, a group of patients with social phobia and a group of patients with other anxiety disorders. The general population group (GP) had 55 individuals (21 males, 34 females), with a mean age of 30.80 years old (SD = 10.04). The subjects of this group were community members who volunteered to complete the questionnaires. The social phobia group (SP) consisted of 62 individuals (28 males, 34 females) with mean age of 25.47 (SD = 6.93), who sought treatment at the Department of Cognitive Behavioral Therapy of the Psychiatric Unit of Coimbra's University Hospital and received a primary diagnosis of generalized social phobia, according to the criteria of the DSM-IV (American Psychiatric Association, 1994). Diagnosis was established by using the diagnostic interview Anxiety Disorders Interview Shedule-IV (ADIS-IV) and we selected only patients without comorbidity with other disorders. After selection procedures and at the beginning of treatment, patients with social phobia were again interviewed with another structured interview, which included the ADIS-IV section for Social Phobia and other questions were added to identify aspects related to the cognitive behavioral model of social phobia, such as processing the self as social event, safety behaviors and anticipatory and post event processing.

The other anxiety disorders group (OAD) was composed of 41 subjects (17 males, 24 females) with a mean age of 28.80 (SD = 9.40). This group as made of 24 patients diagnosed with panic disorder and 17 patients with obsessive–compulsive disorder, who also sought treatment at the Department of Cognitive Behavioral Therapy of the Psychiatric Unit of Coimbra's University Hospital. The diagnosis was established with the use of the ADIS-IV and according to DSM-IV criteria for panic disorder and obsessive–compulsive disorder. The participants of our two clinical groups were interviewed by senior psychologists/psychiatrists with a minimum of 10 years of clinical experience and trained on the administration of the ADIS-IV.

There were no significant differences between the three groups on gender [$\chi^2 = .756$; $P > .050$] or years of education [$F\ (2, 155) = 1.33$; $P > .050$]. As for age, significant differences were found [$F\ (2, 155) = 5.53$; $P < .005$]. Tukey post-hoc tests revealed no significant differences between the SP and OAD groups nor between the OAD patients and normal controls. However, the SP group was significantly younger than non-psychiatric controls. Age correlated significantly with the EMSs but the order of correlation with all the EMSs is very low or low (between –.183 and –.309).

Instruments

The Social Interaction and Performance Anxiety and Avoidance Scale (SIPAAS; Pinto-Gouveia, Cunha, & Salvador, 2003) is a self-report questionnaire that assesses the level of distress and avoidance in 44 situations of performance and social interaction. The scale is comprised of two subscales, the distress/anxiety subscale and the avoidance subscale. A 4-point (1–4) rating scale is used in each of the 44 items (1 = None, 2 = Mild, 3 = Moderate, 4 = Severe, for the distress/anxiety subscale and 1 = Never, 2 = Occasionally, 3 = Often, 4 = Usually, for the avoidance subscale). The total score for each subscale may range from 44 to 176. The two subscales have a very good internal consistency both in the general population (Cronbach's $\alpha = .95$ for the distress/anxiety

subscale and .94 for the avoidance subscale) and in the group of social phobia patients (Cronbach's α = .94 for the distress/anxiety subscale and .92 for the avoidance subscale). Test–retest reliability (4-week interval) that was assessed in the general population was of .86 and of .83 for the anxiety and avoidance subscales respectively. Both subscales discriminate between patients with social phobia and patients with other anxiety disorders and the general population (Pinto-Gouveia et al., 2003).

The Social Avoidance and Distress Scale (SAD; Watson & Friend, 1969) is a well-known 28-item inventory, which assesses distress, discomfort and anxiety in social situations, as well as the deliberate avoidance of those situations. In this study we have used the Portuguese version of the SAD (Pinto-Gouveia et al., 1986), which differs from the original version because it uses a Likert-like scale from 1 to 5 (1 = Not at all, 5 = Extremely). The total score may range from 28 to 140. This Portuguese version of the SAD has been widely used in studies that utilised the Portuguese population and showed good psychometric properties, with a Cronbach α of .91 in a normal population and a concurrent validity with other measures of social anxiety [e.g. the Social Interaction Anxiety Scale of Mattick and Clarke (1998), Pinto-Gouveia & Salvador, 2001].

The Fear of Negative Evaluation Scale (FNE; Watson & Friend, 1969) is a 30-item inventory, which assesses the fear of being negatively evaluated by others. We have used the Portuguese version of the FNE (Pinto-Gouveia et al., 1986), that also uses a Likert-like scale from 1 to 5 (1 = Not at all, 5 = Extremely). Its total score may range from 30 to 150. This scale has been widely used in studies with a Portuguese population and showed good psychometric properties, with a Cronbach's α = .87 in a normal population and a concurrent validity with other measures of social anxiety [e.g. the Social Interaction Anxiety Scale of Mattick and Clarke (1998), Pinto-Gouveia & Salvador, 2001].

The Schema Questionnaire (SQ; Young & Brown, 1989) is a self-report instrument for the assessment of the EMSs that are postulated by the schema-focused model. In this study we used the 123-item version (Young, 1990), which assesses 15 schemas. Responses are given in a six-point Likert scale. Higher item's mean scores (range = 1–6) reflect a more unhealthy level of core beliefs. The Portuguese version of the 123-item SQ showed a very good internal consistency (Cronbach α = .96), and a four week test–retest temporal stability (r = .93) (Pinto-Gouveia, Robalo, Cunha, & Fonseca, 1997).

The study of the factorial structure of the Portuguese version of the SQ showed that 14 factors explained 49.67% of the total variance and revealed a comprehensible factorial validity (Pinto-Gouveia et al., 1997). All except one of the 14 subscales showed a good agreement with the EMSs as Young defined them. Therefore, only 13 subscales were used in this study to assess the following schemas: Emotional Deprivation, Guilt/Failure, Social Undesirability/Defectiveness, Mistrust/Abuse, Unrelenting Standards, Fear of Loosing Self-control, Dependence, Social Isolation/Alienation, Entitlement/Insufficient Limits, Abandonment, Vulnerability to Harm and Illness, Subjugation/Lack of Individuation and Shame (see Table 1 for examples of items in each subscale).

In this study, Cronbach's α coefficients for the 13 EMSs ranged from .71 to .95 (except for Vulnerability to Harm = .67) in the group of patients with social phobia and from .70 to .94 (except for Vulnerability to Harm = .59) in the group of patients with other anxiety disorders.

Results

As men and women do not differ on primary variables except for the SIPAAS Discomfort/Anxiety subscale in the OAD group, t (39) = –2.28; P < .050, and the Social

Undesirability/Defectiveness Schema in the SP group, t (60) = 2.15; $P < .050$, we collapsed across gender for the remainder of the analysis.

In order to confirm that panic and obsessive–compulsive patients were similar enough on social anxiety measures and on the EMSs to be combined in the OAD group we performed between groups t-tests. Results showed no differences on any of our primary variables between panic and obsessive–compulsive patients, except for the EMS Vulnerability to Harm and Illness, t (39) = 2.50, $P = .017$, in which panic patients scored higher than obsessive–compulsive patients. These results showed that panic and obsessive–compulsive patients are similar enough on the EMSs to be combined in a meaningful group for comparison.

Between-group comparisons on social anxiety scales

We used ANOVAS to compare the three groups on the SAD, FNE, SIPAAS and SQ subscales (Table 2). Results revealed that for the SAD, FNE, and Discomfort/Anxiety SIPAAS subscale there were significant differences between the two groups and the SP group, as expected, scored higher than the non-clinical group and the OAD group. The SP group showed higher scores on the Avoidance SIPAAS subscale than normal controls and OAD patients, but normal controls and OAD patients did not show significant differences between them. Thus, this indicated that the groups were different and, as we would expect, the SP group showed higher scores on measures related to social anxiety than the other anxiety disorders' and non-clinical groups.

Between-group analyses on schemas

To study further the differences between the three groups on the EMSs, the SP, OAD and normal control groups were compared on the 13 factors using one-way analyses of variance (ANOVAs). The Bonferroni adjustment to correct the error for multiple comparisons was applied and the alpha level of significance was adjusted from .050 to .003 (.5 divided by 13). Means and standard deviations are presented in Table 2. All of the 13 ANOVAs revealed significant group differences (see Table 2). Post-hoc tests showed that patients with social phobia scored higher than the general population on all the schemas except for the Unrelenting Standards schema. The SP group scored higher than patients with other anxiety disorders on the following schemas: Emotional Deprivation, Guilt/Failure, Social Undesirability/Defectiveness, Mistrust/Abuse, Dependence, Social Isolation/Alienation, Subjugation/Lack of Individuation and Shame. There were no significant differences between patients with social phobia and patients with other anxiety disorders in the Unrelenting Standards, Fear of Loosing Self-control, Entitlement/Insufficient Limits, Abandonment and Vulnerability to Harm and Illness Schemas.

Results give indirect support for the cognitive model for social phobia, showing that patients with social phobia had higher scores than normal controls and patients with other anxiety disorders on the EMSs that are related to a perception of the Self as a failure, as social defective, social undesirable, and socially isolated. Furthermore, our results reinforced this view and suggested that the social phobics' schematic contents are more dominated by themes of Emotional Deprivation, Mistrust/Abuse, Shame and Subjugation than by the schematic contents of the general population and of the other anxiety disorders' patients.

Table 2 Means, standard deviations, univariate *F*-tests and between groups comparison for the 3 groups on SIPAAS discomfort, SIPAAS avoidance, SAD, FNE and SQ subscales

	GP (n = 55)		SP (n = 62)		OAD (n = 41)		F	P	Post-hoc
	M	SD	M	SD	M	SD			
SAD	65.27	12.53	101.39	14.39	79.32	19.83	82.41	.000	SP > OAD > GP**
FNE	87.49	12.76	117.90	14.86	100.63	17.33	61.59	.000	SP > OAD > GP**
SIPAAS									
Discomfort	86.51	15.00	133.79	16.93	96.41	24.90	102.67	.000	SP > OAD** > GP*
Avoidance	79.45	18.90	124.50	18.62	85.34	25.32	80.87	.000	SP > OAD**; SP > GP**
SQ									
Emotional deprivation	1.32	.53	3.32	1.17	1.82	.81	78.04	.000	SP > OAD**; SP > GP**
Guilt/Failure	1.20	.35	3.60	1.41	1.58	1.45	107.36	.000	SP > OAD**; SP > GP**
Social Und./Defectiveness	1.48	.56	3.04	.92	1.92	.83	60.70	.000	SP > OAD**; SP > GP**
Mistrust/Abuse	1.54	.49	3.75	.98	2.20	.81	119.62	.000	SP > OAD > GP**
Unrelenting standards	2.62	1.09	2.89	1.04	3.28	1.07	4.56	.012	OAD > GP*
Fear of loosing self-control	1.57	.51	2.96	.98	2.94	1.02	46.07	.000	SP > GP**;OAD > GP**
Dependence	1.73	.65	3.32	1.24	2.70	.94	37.66	.000	SP > OAD* > GP**
Social isolation/Alienation	1.44	.58	3.34	1.00	2.34	1.17	60.53	.000	SP > OAD > GP**
Entitlement/Insuff. limits	2.36	.74	3.05	.87	2.96	1.11	9.59	.000	SP > GP**;OAD > GP*
Abandonment	2.70	.78	3.88	.92	3.39	.89	26.88	.000	SP > GP**;OAD > GP**
Vulnerability to harm	1.99	.96	2.71	1.02	2.63	.81	9.68	.000	SP > GP**;OAD > GP**
Subjugation/Lack of individ.	1.39	.42	2.87	.96	1.73	.60	67.81	.000	SP > OAD**; SP > GP**
Shame	1.61	.64	3.33	1.27	2.23	1.11	40.44	.000	SP > OAD**; SP > GP**

$^{**}P < .001$; $^{*}P < .05$

GP = general population; SP = patients with social phobia; OAD = others anxiety disorders; SAD = Social Avoidance and Distress Scale; FNE = Fear of Negative Evaluation;

SIPAAS = Social Interaction and Performance Anxiety and Avoidance Scale; SQ = Schema Questionnaire

Patients with other anxiety disorders had significantly higher scores than the general population group on all EMSs except for Emotional Deprivation, Guilt/Failure, Social Undesirability/Defectiveness, Subjugation/Lack of Individuation and Shame schemas.

The finding that the OAD group showed higher scores than the general population group on the EMSs that reflect themes of Mistrust/Abuse, Unrelenting Standards, Fear of Loosing Self-control, Dependence, Social Isolation/Alienation, Entitlement/Insufficient Limits, Abandonment and Vulnerability to Harm and Illness, was in accordance to what we would expect, as most of the patients in the OAD group had obsessive–compulsive's and panic disorder's diagnoses.

Regression analyses

To further understand the relationship between the EMSs and social anxiety, we conducted a stepwise regression analysis. We entered the 13 EMSs in order to predict Discomfort subscale of SIPAAS's and FNE's scores on the 158 subjects of the total sample. Results are presented in Tables 3 and 4.

Results of the regression analysis using the Discomfort subscale of SIPAAS as the dependent variable, indicated that SQ subscales accounted for a significant proportion of the variance (58.4%) in social anxiety ($R = .765$, $P < .001$). Four of the SQ subscales were significant individual predictors of social anxiety, with Mistrust/Abuse accounting for 48.3% of the unique variance ($t = 5.33$, $P < .001$), Social Undesirability/Defectiveness accounting for 4.9% of the unique variance ($t = 4.09$; $P < .001$), Entitlement/Insufficient Limits accounting for 3.4% of the unique variance ($t = –3.80$; $P < .001$), and Shame accounting for 1.8% ($t = 2.56$; $P < .050$).

A second regression analysis demonstrated that the SQ subscales accounted for a significant proportion of the variance (53.8%) in fear of negative evaluation ($R = .734$; $P < .001$). Four of the SQ subscales were significant individual predictors of fear of negative evaluation, with Shame accounting for 43.1% of the unique variance ($t = 3.96$, $P < .001$), Mistrust/Abuse accounting for 7.9% of the unique variance ($t = 2.53$; $P < .050$), Emotional Deprivation accounting for 1.6% of the unique variance ($t = 2.35$; $P < .050$), and Unrelenting Standards accounting for 1.2% ($t = 2.00$; $P < .050$).

Table 3 Stepwise regression analysis for EMSs on Discomfort/Anxiety subscale of SIPAAS

Predictors	β	R^2	R^2 change	F change	P
Mistrust/Abuse	.413	.483	.483	145.98	.000
Social Undes./Defectiveness	.353	.532	.049	16.25	.000
Entitlement	–.246	.567	.034	12.14	.001
Shame	.206	.584	.018	6.58	.011

Table 4 Stepwise regression analysis for EMSs on FNE

Predictors	β	R^2	R^2 change	F change	P
Shame	.315	.431	.431	118.16	.000
Mistrust/Abuse	.241	.510	.079	24.89	.000
Emotional deprivation	.218	.526	.016	5.27	.023
Unrelenting standards	.115	.538	.012	4.04	.046

Discussion

The purpose of the present study was to investigate the relationship between social anxiety and the EMS, as self-perpetual dysfunctional cognitive structures that are postulated by Young's schema focused model, which are thought to develop during childhood, due to dysfunctional relationships with significant others. This relationship was investigated by examining differences on the EMSs between a group of social phobic patients, a group of patients with panic and obsessive–compulsive disorders and a normal control group. We also investigated with the help of a regression analysis, the contribution of EMSs in explaining the variance of social anxiety in all the participants in the sample.

It is important to note, however, that the cross-sectional nature of our research design makes it impossible to determine the relationship between social anxiety and the perceptions of core beliefs. This means that not only the EMSs may influence the development of social anxiety in participants, but also having social anxiety may result in distorted or biased interpretations of the self and the others. Similarly, although theoretically EMSs are developed early in life, the design of our study does not permit us to address this issue and the use of the term ''early'' is speculative. Thus, prior to any definitive statements being made regarding the influence of the EMSs on the development of social anxiety in adults, additional research with longitudinal designs is needed, in such way that can address better the question of directionality.

The first salient aspect about the results of this study is the strong association between early maladaptive schemas and higher levels of psychopathology. Both clinical groups scored significantly higher than the general population group in most of the subscales of the schema questionnaire. More relevant yet for our study was the finding that patients with social phobia scored higher than patients with other anxiety disorders in most of the schemas assessed by the schema questionnaire. This suggests that social phobia is more associated with a wide range of dysfunctional core beliefs than panic disorder or obsessive–compulsive disorder. Furthermore, our results identified important differences between social phobic patients and patients with other anxiety disorders in the EMSs. According to our hypotheses most of the EMSs that discriminate between the two groups—Emotional Deprivation, Guilt/Failure, Social Undesirability/Defectiveness, Mistrust/Abuse, Social Isolation/Alienation, Dependence, Abandonment, Subjugation and Shame—are within the area of disconnection/rejection, indicating that patients with social phobia have more core beliefs related to expectations that their needs for nurturing, stable, trustworthy and empathic relationships will not be met in a stable manner than other anxiety disorder's patients. Given the interpersonal nature of these core beliefs it is not surprising that patients with social phobia feel anxious when they are involved in social situations or that they would therefore avoid them. We did not expect that the schema of Dependence would differentiate between the SP and OAD groups, given the number of patients with panic disorder present in the latter group. However, on a second thought, the severe limitations associated with social phobia can explain that generalized social phobics might have a self perception of being highly dependent and unable to confront by themselves a large range of social situations. This is consistent with results presented by Gelernter, Stein, Tancer, and Uhde (1992), who used the Sheehan disability scale and found that generalized social phobics reported more disability than those with panic disorder, showing therefore, more anxiety and more avoidance behaviors. Although, not contrary to our hypotheses, given the

nature of patients of the OAD group (panic and obsessive–compulsive patients), it was somewhat unexpected that the EMS of Unrelenting Standards, Fear of Loosing Control, Entitlement and Vulnerability to Harm and Illness did not differentiate between the SP and OAD groups. Fear of Loosing Control and Vulnerability to Harm and Illness are important themes in the cognitive structure of panic patients and Unrelenting Standards and Entitlement are themes usually associated with obsessive–compulsive disorder, so we could expect that the OAD group scored higher in these EMS. Once again this result suggests that social phobia is associated with a more wide range of dysfunctional beliefs than panic and obsessive–compulsive disorders. Unfortunately, as we have already noted, our research design does not allow to state clearly if the EMSs are indeed antecedents of social phobia or a consequence of biased interpretations of the self and others that result from the difficulties associated with social phobia.

In the regression analyses we tried to identify the set of EMS that explain most of the variance in the discomfort felt in social situations, assessed by the Discomfort scale of SIPAAS and the fear of negative evaluation assessed by FNE in all three groups of participants. We assumed that the experience of social anxiety is universal and exists along a continuum with the extreme form being social phobia. Results of the first regression analysis allowed us to identify the core beliefs of Mistrust/Abuse, Social Undesirability/Defectiveness, Entitlement and Shame as the ones that explain most of the variance (58%) in the Discomfort/Anxiety that are felt in social situations. Note that Entitlement is inversely related to social anxiety, i.e., less entitlement is associated with more social anxiety. These results suggest that the belief that others will take advantage of you and the expectation that others are abusive, humiliating and manipulative are important components of the schematic structure related to social anxiety, beyond a self-schema of social undesirability/defectiveness and shame. Although these findings are consistent with the cognitive model of social anxiety, they suggest the need for a wider view of the schematic structure of patients with social phobia that incorporates the interpersonal expectations of these patients. The mistrust/abuse schema has the largest independent effect in the variation of the discomfort/anxiety in social situations felt by the individuals of our sample.

Results of the second regression analysis showed the core beliefs of Shame, Mistrust/Abuse, Emotional Deprivation and Unrelenting Standards as the ones that explain 54% of the variance in the fear of negative evaluation across all the three groups combined. Despite the fact that the two regression analyses have shown differences in two of the EMSs, which was expected, as the discomfort felt in social situations assessed by SIPAAS is not the same experience of the fear of negative evaluation assessed by FNE, the results of the two regressions showed that EMSs explain a significant amount of variance in the anxiety felt in social situations and the fear of negative evaluation. The EMSs of Mistrust/Abuse and Shame were significant predictors in both regression analyses and had the largest independent effect.

Overall, the results of the comparison between groups and the regression analyses converged to point out the importance of the EMSs of Mistrust/Abuse, Shame, Social Undesirability/Defectiveness and Emotional Deprivation in the experience of social anxiety.

These results have important implications for the clinical assessment and treatment of social phobia, suggesting that the evaluation of the EMSs could provide important information about the core beliefs associated with social anxiety. Furthermore, our results suggest that core beliefs of mistrust/abuse, emotional deprivation and shame should be systematically assessed in patients with social phobia, and can be particularly

relevant in patients that do not improve with the standard cognitive therapy interventions for social phobia. These patients might benefit from a specific therapeutic approach for the maladaptive schemas with the use of schema-focused therapy, which can trace the development of these core beliefs by employing a cognitive restructuring methodology that is more emotional and interpersonal focused (Nordahl & Nysaeter, 2005; Young et al., 2003).

Finally, in addition to the cross-sectional nature of our research, several other limitations should be acknowledged. First, a note of caution must be taken when interpreting the differences found between social phobia and general population groups since the two groups differ significantly on age and there was a significant correlation between age and the EMSs. However, the order of correlations was very low and the effects of univariate tests are so robust that it seems unlikely that the differences that were found were due to the influence of age differences between the SP and GP groups.

A second limitation was the combination in the OAD group of panic and obsessive–compulsive patients. This was not the best solution for a comparison group, even though in our sample panic and obsessive–compulsive patients did not differ in the EMSs, except in the schema of Vulnerability to Harm an Illness, with individuals with panic disorder scoring higher as would be expected. To avoid the possible confounding influence of the association of panic and obsessive–compulsive disorder patients in the same group, ideally, they should be separated in two larger control groups of panic and obsessive–compulsive patients. Splitting those two groups would allow a better comparison between the EMSs identified in patients with social phobia and the ones of patients with panic disorder and obsessive–compulsive disorder.

Also, our study's findings should be considered in the light of the limitations related with the use of self-report questionnaires for the assessment of the EMSs.

To the best of our knowledge, this is the first study to explore how different types of core beliefs derived from Young's model are related to social phobia and measures of social anxiety. Future studies should combine the assessment of the EMSs by self report questionnaires with other methodologies of assessment (interview, activation of schema with social scenarios), and use specific comparison groups of other anxiety disorders. Another important issue to be investigated in future studies is the role of the EMSs as mediator factors between negative parenting styles and social anxiety.

In summary, the results of the present study showed that the patients with social phobia have higher levels of early maladaptive schemas in the area of disconnection/rejection than patients with other anxiety disorders (panic and obsessive–compulsive disorder). Furthermore, our results suggested that the expectation that others are abusive, manipulative and humiliating should be systematically assessed and modified in the treatment of social phobia.

Acknowledgments This study was supported in part by the CINEICC financed by the FCT. The authors wish to acknowledge the helpful comments and suggestions of the anonymous reviewers on earlier version of this manuscript.

References

American Psychiatric Association (1994). *Diagnostic and statistical manual of mental disorders: DSM-IV* (4th ed.). Washington, DC: American Psychiatric Association.

Beck, A. T., Emery, G., & Greenberg, R. L. (1985). *Anxiety disorders and phobias: A cognitive perspective*. New York: Basic Books.

Clark, D. M., & Wells, A. (1995). A cognitive model of social phobia. In R. Heimberg, M. Liebowitz, D. A. Hope, & F. R. Schneier (Eds.), *Social phobia: Diagnosis, assessment and treatment*. New York: Guilford.

Coupland, N. J. (2001). Social phobia: Aetiology, neurobiology, and treatment. *The Journal of Clinical Psychiatry*, *62*(Suppl 1), 25–35.

Gelernter, C. S., Stein, M. B., Tancer, M. E., & Uhde, T. W. (1992). An examination of syndromal validity and diagnostic subtypes in social phobia and panic disorder. *The Journal of Clinical Psychiatry*, *53*(1), 23–27.

Herbert, J. D., Hope, D. A., & Bellack, A. S. (1992). Validity of the distinction between generalized social phobia and avoidant personality disorder. *Journal of Abnormal Psychology*, *101*(2), 332–339.

Hudson, J. L., & Rapee, R. M. (2000). The origins of social phobia. *Behaviour Modification*, *24*(1), 102–129.

Marteinsdottir, I., Furmark, T., Tillfors, M., Fredrikson, M., & Ekselius, L. (2001). Personality traits in social phobia. *European Psychiatry*, *16*(3), 143–150.

Mattick, R., & Clarke, J. (1998). Development and validation of measures of social phobia scrutiny fear and social interaction anxiety. *Behaviour Research and Therapy*, *36*, 455–470.

Neal, J. A., & Edelmann, R. J. (2003). The etiology of social phobia: Toward a developmental profile. *Clinical Psychology Review*, *23*(6), 761–786.

Nordahl, H. M., & Nysaeter, T. E. (2005). Schema therapy for patients with borderline personality disorder: A single case series. *Journal of Behavior Therapy and Experimental Psychiatry*, *36*(3), 254–264.

Pinto-Gouveia, J., Robalo, M., Cunha, M., & Fonseca, L. (1997). *O questionário de esquemas de Young: aferição e utilização na população portuguesa* [Youngs Schema Questionnaire: translation and adaptation to the Portuguese population]. Paper presented at the V Latini Dies, Cascais, Portugal.

Pinto-Gouveia, J., Cunha, M. I., & Salvador, M. C. (2003). Assessment of social phobia by self-report questionnaires: The social interaction and performance anxiety and avoidance scale and the social phobia safety behaviour scale. *Behavioural and Cognitive Psychotherapy*, *31*, 291–311.

Pinto-Gouveia, J., Fonseca, L., Robalo, M., Allen, A., Matos, A. P., & Gil, E. (1986). Ansiedade social: Utilização dos questionários de auto-resposta SAD, FNE e SISST numa população portuguesa [Social anxiety: The utilization of SAD, FNE and SISST in a Portuguese population]. *Psiquiatria Clínica*, *7*, 43–48.

Pinto-Gouveia, J., & Salvador, M. C. (2001). *The social interaction anxiety scale and the social phobia scale in the Portuguese population*. Paper presented at the XXXI Annual Congress of European Association For Behavioural and Cognitive Therapies, Istambul – Turkey.

Rapee, R. M., & Heimberg, R. G. (1997). A cognitive-behavioral model of anxiety in social phobia. *Behaviour Research and Therapy*, *35*, 741–756.

Rapee, R. M., & Spence, S. H. (2004). The aetiology of social phobia: Empirical evidence and an initial model. *Clinical Psychology Review*, *24*(7), 737–767.

Schmidt, N. B., Joiner, T. E., Young, J. E., & Telch, M. J. (1995). The schema questionnaire: Investigation of psychometric properties and the hierarchical structure of a measure of maladaptive schemas. *Cognitive Therapy and Research*, *19*, 295–321.

Shah, R., & Waller, G. (2000). Parental style and vulnerability to depression: The role of core beliefs. *The Journal of Nervous and Mental Disease*, *188*(1), 19–25.

Watson, D., & Friend, R. (1969). Measurement of social-evaluative anxiety. *Journal of Consulting and Clinical Psychology*, *33*, 448–457.

Welburn, K., Coristine, M., Dagg, P., Pontefract, A., & Jordan, S. (2002). The schema questionnaire-short form: Factor analysis and relationship between schemas and symptoms. *Cognitive Therapy and Research*, *26*, 519–530.

Williams, J. M., Watts, F. N., Macleod, C., & Mathews, A. (1997). *Cognitive psychology and emotional disorders*. (2nd ed.). Chichester: Wiley.

Young, J. (1990). *Cognitive therapy for personality disorders: A schema-focused approach*. Sarasota, FL: Professional Resource Exchange.

Young, J. (1999). *Cognitive therapy for personality disorders: A schema-focused approach* (3rd ed.). Sarasota, FL: Professional Resource Exchange.

Young, J., & Brown, G. (1989). *Schema questionnaire*. Unpublished manuscript. Cognitive Therapy Centre of New York.

Young, J. E., Klosko, J. S., & Weishaar, M. E. (2003). *Schema therapy: A practitioner's guide*. New York: The Guilford Press.